WHAT IS CLAIMED IS:

1. A fuel injection control device for a spark ignition engine having a fuel injector in an intake port, comprising:

an engine rotation speed sensor detecting an engine rotation speed; and

a programmable controller programmed to:

calculate a basic injection amount of fuel;

calculate a target fuel injection amount by correcting the basic fuel amount in response to the trend in variation of the engine rotation speed; and

control a fuel injection amount of the fuel injector to the target fuel injection amount.

2. The fuel injection control device as defined in Claim 1, wherein the controller is further programmed to determine whether or not the engine is in a startup state, and when the engine is not in a startup state, to prevent the basic fuel amount from being corrected in response to the trend in variation of the engine rotation speed

3. The fuel injection control device as defined in Claim 2, wherein the engine is an engine for driving a vehicle which comprises a starter switch for cranking the engine, and the controller is further programmed to determine that the engine is in the startup state when the starter switch is ON.

4. The fuel injection control device as defined in Claim 2, wherein the controller is

further programmed to set the target fuel injection amount to a fixed value when the fuel injector performs fuel injection for the first time in the startup state.

5. The fuel injection control device as defined in Claim 1, wherein the controller is further programmed to correct the basic fuel injection amount when the rotation speed of the engine increases to a value larger than a value which is obtained by correction when the rotation speed of the engine is decreasing with respect to an identical engine rotation speed.

6. The fuel injection control device as defined in Claim 5, wherein the engine rotation speed sensor comprises a sensor outputting a first speed signal and a second speed signal which is updated less frequently than the first speed signal and the controller is further programmed to determine whether or not the engine rotation speed is increasing based on variation in the first speed signal.

7. The fuel injection control device as defined in Claim 6, wherein the engine rotation speed sensor comprises a crank angle sensor which detects variation in a crank angle of the engine and the first signal comprises a signal corresponding to a unit crank angle and the second signal comprises a signal corresponding to a predetermined crank angle.

8. The fuel injection control device as defined in Claim 6, wherein the controller is further programmed to calculate the target fuel injection amount by correcting the basic injection amount using a first correction amount based on the difference between the engine rotation speed calculated from the first signal and the engine

rotation speed calculated from the second signal.

9. The fuel injection control device as defined in Claim 8, wherein the first correction amount increases the basic fuel injection amount when the engine rotation speed calculated from the first speed signal is greater than the engine rotation speed calculated from the second speed signal, and decreases the basic fuel injection amount when the engine rotation speed calculated from the first speed signal is smaller than the engine rotation speed calculated from the second speed signal.

10. The fuel injection control device as defined in Claim 9, wherein the absolute value of the first correction amount is set to increase as the difference of the engine rotation speed calculated from the first speed signal and the engine rotation speed calculated from the second speed signal increases.

11. The fuel injection control device as defined in Claim 8, wherein the controller is further programmed to calculate the target fuel injection amount by correcting the basic fuel injection amount using both the first correction amount and a second correction amount which increases as the engine rotation speed calculated from the first speed signal decreases.

12. The fuel injection control device as defined in Claim 6, wherein the controller stores a first map and a second map for calculating an increase correction amount, the first map giving a larger increase correction amount than the second map, and is further programmed to calculate the increase correction amount by selective

applying the first map and the second map in response to the trend in the variation in the engine rotation speed

13. The fuel injection control device as defined in Claim 12, wherein the first map and the second map are set to give an identical increase correction amount when the engine rotation speed is not less than a predetermined speed.

14. The fuel injection control device as defined in Claim 12, wherein the first map and the second map are both set to increase the increase correction amount as the engine rotation speed decreases.

15. The fuel injection control device as defined in Claim 1, wherein the engine comprises a plurality of cylinders having a combustion cycle offset from each other, each of the cylinders comprising an intake port and a fuel injector, and the controller is further programmed to calculate the target fuel injection amount for each cylinder in response to the combustion cycle.

16. The fuel injection control device as defined in Claim 1, wherein the fuel injection control device further comprises a sensor which detects an intake air amount of the engine, and the controller is further programmed to set the basic injection amount based on the intake air amount.

17. A fuel injection control device for a spark ignition engine having a fuel injector in an intake port, comprising:

means for determining an engine rotation speed;

means for calculating a basic injection amount of fuel;

means for calculating a target fuel injection amount by correcting the basic fuel amount in response to the trend in variation of the engine rotation speed; and

means for controlling a fuel injection amount of the fuel injector to the target fuel injection amount.

18. A fuel injection control method for a spark ignition engine having a fuel injector in an intake port, comprising:

determining an engine rotation speed;

calculating a basic injection amount of fuel;

calculating a target fuel injection amount by correcting the basic fuel amount in response to the trend in variation of the engine rotation speed; and

controlling a fuel injection amount of the fuel injector to the target fuel injection amount.